



**MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY AND RESOURCE ASSESSMENT DIVISION**

Drought Assessment Committee Meeting

July 29, 2005

Minutes

Attendance: Jud Kneuvean, Corps of Engineers, Bob Bailey, SEMA, Kris Hilgedick, News Tribune, Kim Martin, Department of Economic Development, James Kleffner, Maries County Presiding Commissioner, Tom Wright, Miller County Presiding Commissioner, Gary Wilson, U.S. Geological Survey, Dick Wiechman, U.S. Environmental Protection Agency, Clif Baumer, U. S. Department of Agriculture-NRCS, Clark Thomas, U.S. Department of Agriculture-RD, Senator Carl Vogel, Tim Rich and Tim Freeman, Congressman Hulshof's office, Anthony Lupo, UMC, Brad McCord, Department of Conservation, Judy Grundler and Dan Engemann, Department of Agriculture, Tim Kelley, U.S. Department of Agriculture-FSA, Gene Danekas, U.S. Department of Agriculture, NASS, David Baker, UMC, Mike Wells, Jim Alexander, Steve McIntosh, Sarah Fast, Sherry Chen, Joe Engeln, Deana Cash and Kerry Cordray, Department of Natural Resources.

Mike Wells welcomed everyone to the 2nd DAC meeting. Your attendance is appreciated and we welcome your input. The Governor's office staff is requesting a report so they can determine actions to be taken or what the Governor can do to help accelerate assistance to the citizens of the state.

Steve McIntosh, Climate and Weather Committee Report

The July 21-28 rainfall intelligencecast shows northwest Missouri doing pretty good, receiving about 2-4 inches of rainfall. In the last 30 days Hurricane Dennis helped to ease impacts in southeast Missouri, but conditions in other parts of the state have worsened. Central Missouri appeared to be the worst area in the state for the month of June. Central Missouri had only 25% of normal rainfall.

This drought came on during growing season creating more impacts. We are not seeing long-term impacts to wells at this time. A good winter provided for a lot of recharge and we are about where we are supposed to be for this time of year. A well in Greene County is showing a bit of a problem at 20 ft. lower than what is expected for this time of year. Shallow wells may also show some problems. Most Missouri streams are near average conditions. Turnback Creek is at a record daily low. Some streams near Greenfield, Waco and Rich Fountain are experiencing some base flow problems.

Mike Wells stated that the Mississippi River is having some flow problems and some problems with locks. Under the new Master Manual for operating the Missouri River the navigation season will be shortened by 48 days, which may create some problems if we are still in a drought come October. Navigation on the Mississippi River could be impacted as well.

When the Climate and Weather Committee meets to discuss drought conditions for each county. Conditions throughout the county are considered when determining drought status. The county is included even if only part of the county is impacted.

Judy Grundler, Department of Agriculture - Agricultural Impact Team Report

Since we last met the conditions have continued to decline. Thirty-seven percent of corn is poor, to very poor, 33 percent of the soybeans are listed as poor to very poor. Pastures are severely impacted with 75 percent in poor to very poor conditions. Livestock producers are experiencing major impacts. They are dipping into hay reserves and some liquidation of stock is taking place. There have been some livestock losses from heat stress.

Southwest Missouri impacts are being felt with marginal pond and water availability. Southeast Missouri is starting to feel dry again and began irrigating again this week. Rice and cotton are doing very well. Cotton is in upturn condition. Acreage that did not receive the benefits of water has shown a dramatic difference and has the potential for decline in yields.

Corn yield in the areas not affected are looking very good with 120 bushel average. If it becomes impacted by the drought, corn could become barren and a total loss. A lot of variability where there is water and where there is not.

Tax relief is available for those liquidating herds. The IRS program is still in effect. Their county must be in the disaster declaration designation to be eligible for the tax relief.

Producers who may be facing a hay shortage have two ways to find hay for sale in Missouri. The Missouri Hay Directory is a free publication designed to help farmers buy and sell hay. The directory lists more than 200 hay producers, telephone numbers, amount and type of hay for sale and bale size and shape. The publication is divided into seven categories, including alfalfa, clover, grass/legume, grass hay, straw, out-of-state producers and truckers/dealers.

The same information also can be found online at <http://agebb.missouri.edu/haylst>. The hay market webpage, a cooperative effort of the University of Missouri's Agricultural Electronic Bulletin Board and the Missouri Department of Agriculture, allows producers to list their hay online or by calling the department's hay hotline toll free at (800) 877-4HAY. For more information about the website or to obtain a free copy of the Missouri Hay Directory, call the Missouri Department of Agriculture's hay hotline toll-free at (800) 877-4HAY. Directories for other states are also listed at this website.

Gane Danekas, NASS

A field assessment is being done across the state. Yield potential results will come out August 12. Soybeans have the best potential if we get some rain in the next few weeks. Some harvest of corn may begin August 10. Pasture conditions are pretty bad across the entire state, marginal at best, mainly because of excessive heat. Northwest and southeast Missouri are in pretty good condition. FSA office data shows rainfall departure from normal for most crops, with northwest Missouri looking much better than the rest of the state.

Tim Kelley, FSA

A disaster assessment should be completed by the middle of next week and sent to the Governor's office for his recommendations. A lot of counties will come in with 50-60 percent below normal corn yield. Once damage assessments are in we will have a better idea of the economic impact. Counties have asked for some emergency water assistance in the south and south-central parts of the state.

USDA /FARM SERVICE AGENCY PROGRAMS WITH DROUGHT RELATED PERTINENCE

AVAILABLE NOW

MANAGED HAYING AND GRAZING OF CONSERVATION RESERVE PROGRAM (CRP) ACRES;

MANAGED HAYING AND GRAZING ON CRP ACRES MAY BE REQUESTED FOR ENROLLED CRP ACRES AFTER JULY 15TH. A 25% REDUCTION OF THE ANNUAL CRP RENTAL PAYMENT IS APPLIED TO THE ACRES HAYED OR GRAZED.

AVAILABLE ON REQUEST BUT CANNOT HAY OR GRAZE SAME ACREAGE FOR SUBSEQUENT TWO YEARS.

AVAILABLE NOW

CRP CONTINUOUS SIGNUP PROGRAMS;

IF LIVESTOCK PRODUCERS WISH TO CREATE A RIPARIAN BUFFER OF WILDLIFE FRIENDLY GRASSES OR TREES ALONG A PERMANENT OR SEASONAL STREAM OR OTHER PERMANENT WATER SOURCE AND LIVESTOCK IS PRECLUDED FROM THE ONLY AVAILABLE SOURCE, USDA WILL PROVIDE UP TO 90% COST SHARE TO DEVELOP AN ALTERNATE WATER SOURCE, ESTABLISH THE COVER, FENCING, CROSSINGS ETC.

SIGN UP INCENTIVES, UP TO 15 YEARS OF ANNUAL RENTAL PAYMENTS EQUAL TO THE SOIL RENTAL RATE PLUS A 20% BONUS AND OTHER COST SHARE INCENTIVES ALSO ARE AVAILABLE.

THE PROGRAM IS AVAILABLE TO OWNERS OF ELIGIBLE GRASSLAND. FUNDS ARE CURRENTLY AVAILABLE. CONTACT LOCAL USDA SERVICE CENTER.

ASK FOR PROGRAM CP-22 MARGINAL PASTURE OR CP-30 WETLAND BUFFER.

EMERGENCY CONSERVATION PROGRAM DROUGHT (ECP-D)

PROVIDES COST SHARE UP TO 75% ON EMERGENCY INSTALLATION OF TEMPORARY OR PERMANENT WATER SOURCE TO ALLEVIATE DROUGHT RELATED LACK OF LIVESTOCK WATER.

THRESHOLD AND IMPLEMENTATION; COC MUST DOCUMENT LACK OF RAINFALL AND HAVE AT LEAST ONE REQUEST FOR ASSISTANCE FROM A LIVESTOCK PRODUCER. COC REQUESTS IMPLEMENTATION TO THE STATE COMMITTEE (STC)

FUNDING; CONGRESSIONAL APPROPRIATION. TIME VARIES. PRODUCERS MAY PROCEED WITH EMERGENCY MEASURES AND BE REIMBURSED IF/WHEN FUNDS BECOME AVAILABLE.

EMERGENCY RELEASE OF CONSERVATION RESERVE ACRES;

ALLOWS PRODUCERS TO HAY OR GRAZE LAND ENROLLED IN THE CONSERVATION RESERVE PROGRAM (CRP). GENERALLY LIMITED TO 60 DAYS AND A 25% REDUCTION TO THE CRP ANNUAL PAYMENT ON THE ACRES HAYED OR GRAZED IS ASSESSED.

THRESHOLD AND IMPLEMENTATION; REQUIRES DOCUMENTATION OF DROUGHT CONDITIONS BY COC. MUST BE IN A RED AREA OF THE US DROUGHT MONITOR OR HAVE 4 CONSECUTIVE MONTHS OF 40% BELOW AVERAGE RAINFALL IN THE COUNTY. REQUESTED BY COC AND REVIEWED BY STC AND NATIONAL USDA OFFICE. NO FUNDING APPROPRIATION REQUIRED.

**LIVESTOCK ASSISTANCE PROGRAM; LAP
PROVIDES REIMBURSEMENT TO LIVESTOCK PRODUCERS FOR LOSS OF PASTURE PRODUCTION OR IN EXTREME CASES ACTUAL LOSS OF ANIMALS DUE TO DROUGHT.**

THRESHOLD AND IMPLEMENTATION; MUST HAVE RECORDED AT LEAST A 40% BELOW NORMAL RAINFALL FOR THE COUNTY IN 3 OR 4 CONSECUTIVE MONTHS. COUNTY COMMITTEE (COC) SUBMITS REQUEST TO STC.

FUNDING; CONGRESSIONAL APPROPRIATION. DISBURSEMENT; USUALLY IN FY AFTER EVENT. (AGENCY IS ACCEPTING APPLICATIONS IN 23 COUNTIES FOR THE DROUGHT OF 2003-2004.)

**CROP DISASTER PROGRAM; CDP
PROVIDES CROP PRODUCERS REIMBURSEMENT FOR PRODUCTION LOSSES DUE TO ANY DISASTER RELATED OCCURENCE. THE PROGRAM IS USUALLY A SUPPLEMENT TO CROP INSURANCE BUT IS AVAILABLE ON BOTH INSURED AND UNINSURED CROPS.**

THRESHOLD AND IMPLEMENTATION; IF ENACTED BY CONGRESS, AVAILABLE TO ANY PRODUCER MEETING THE THRESHOLD OF A 35% LOSS OF CROP PRODUCTION FROM ESTABLISHED YIELDS OR COUNTY AVERAGE. DISBURSEMENT; USUALLY IN FY AFTER EVENT. (AGENCY IS ACCEPTING APPLICATIONS FOR CROP LOSSES OF 2003-2004 UNTIL September 9, 2005)

EMERGENCY OPERATING LOANS;

PRODUCERS MAY BORROW 100% OF ACTUAL CROP LOSSES DUE TO DROUGHT.

THRESHOLD AND IMPLEMENTATION; REQUIRES A SECRETARIAL OR PRESIDENTIAL EMERGENCY DECLARATION. FUNDS ARE APPROPRIATED BY CONGRESS BUT USUALLY AVAILABLE. ANY CROP INSURANCE OR OTHER PROGRAM PAYMENTS ARE DEDUCTED FROM THE ELIGIBLE AMOUNT. SECURITY REQUIREMENTS ARE SOMEWHAT RELAXED.

For more information, please visit the FSA website at www.fsa.usda.gov/pas/

David Baker, University of Missouri

Website has been updated. Testing for nitrate levels is being done. Seeing some issues with cracking foundations due to soil moisture. See website for tips for drought-stressed and dry-weather related articles. <http://agebb.missouri.edu/news/queries/index.idc>

Brad McCord, Department of Conservation

No fish kills or other troubles in streams. Some concern about tree planting. Later in the month the department will look at the upcoming waterfowl season and how it could be impacted.

Jud Kneuvean, U.S. Army Corps of Engineers

We are monitoring reservoir levels and meeting targets at this time, except Long Branch is running below normal lake levels.

Mike Wells stated that the Missouri River is running as low as it can and still support navigation (minimum service). The Reservoir system is low, but they are getting some good rains this week and have come up a little bit. We are getting some water out of the Kansas reservoir system. The water quality standard for power plants that discharge water is for the temperature of the discharged water to be below 90 degrees at the end of the mixing zone. When river flow is low during the warm weather months, water temperature tends to increase because less cooler water is entering from tributaries and the sun and air increase water temperatures. Warmer, low-river levels also impact power plants because warmer intake temperatures reduce the cooling provided by the water. During times of high demand because of high temperatures and low, warm river conditions because of drought or operational decisions, power plants have a difficult time getting enough cooling from the water while also pushing up against the 90 degree limit.

Gary Wilson, USGS

Some stream sites are showing all time lows. Southeast and central Missouri will lag behind and drop slower due to spring flows. These streams will continue flowing longer as they are supplemented by groundwater.

Deana Cash, DNR - Public Drinking Water

Many public water systems with well supplies that serve rural areas are experiencing well pump capacity issues due to high water demands. Water tables do not appear to be the problem at this time.

If drought conditions and high water use continue, water tables will decline and water systems that have multiple wells or other well located nearby using the same aquifer source will draw down the water table. This could cause the well pumps to suck air and fail, calling for pumps to be lowered, and new wells to be drilled to a deeper depth. We are recommending water systems served by wells monitor the draw down of their wells, assess production capacity versus demands, and encourage water conservation measures be implemented if the water table is declining or if pumps are nearing capacity.

Surface water lakes/reservoirs are doing fine. Several water systems in the central, north, and northeast portion of the state report they are near full water treatment plant capacity due to the high demands and are implementing voluntary water conservation. The impacts are primarily on treatment plant production capacity, which require the plant to run long hours to keep up with demands.

With continuation of high water demands, high temperatures, and increased evaporation rates, the source water lakes and reservoirs supplying water systems will decline rapidly. We are recommending water conservation measures be taken for systems nearing treatment plant and distribution capacity and all systems monitor levels of their surface water sources routinely to keep ahead of the impacts they may face with continued drought conditions. Also

recommended, if capable, water systems supplement their reservoirs by pumping water from wells, streams, or rivers into their reservoirs when flows are adequate. If there are emergency interconnects with other systems, systems need to make certain the connection is ready for use and it is best to have mutual aid agreements signed in advance of the emergency.

The PDWB contacted most all of the surface water systems and many groundwater systems in the drought stricken counties defined by the DAC, July 13th, as well as those affected by past drought. Of the water systems contacted to date, 15 report their production capacities are at or near full capacity due to high water demands. Eleven water supplies have requested water conservation measures.

Clarence Cannon Wholesale Water Commission sells water to 20 water systems in total, 12 cities and eight water districts. Nearly all of those systems are at their contact capacity and CCWWC is encouraging them to issue conservation notices. Many of the water districts are being stressed by agricultural and cattle water uses.

There is a concern with Missouri River levels. Some suppliers are concerned about the low river levels affecting their intakes. Low levels and high temperatures increase the need for additional treatment, utilizing additional pumps extended further into the river (emergency pumps), and increased associated costs.

Water systems are being impacted by high demands, particularly those serving rural areas where there may be high agricultural use and cattle farmers are utilizing water from the public water system. We encourage all public water systems to request conservation prior to an emergency situation and to report problems due to drought conditions and high water use to their MoDNR Regional Office.

Steve McIntosh presented the drought forecast.

Less than normal rainfall and above normal temperatures are predicted. The soil moisture outlook for the end of August and the end of September does not look good. Central Missouri's predicted soil moisture deficit is greater than anywhere else in the U.S. The seasonal Palmer drought outlook is indicating some improvement through October. Tony Lupo noted that in the fall when the jet stream normally migrates southward, that could bring some improvement, but that is not indicated in the shorter-term forecast.

The drought in southeast Missouri has been somewhat alleviated due to the remnants of Hurricane Dennis and continued rainfall.

Steve McIntosh noted that at this time we are looking at an agricultural drought, but there is a good change it will turn into a hydrologic drought. With hot temperatures and low precipitation predicted for August.

Joe Engeln, noted that the NOAA climate divisions letter referred to in the July 13 meeting has been resent and we hope to hear back soon.

Mike Wells will follow-up with the Governor's office this afternoon on our discussion and current drought conditions and impacts, and will notify them that the DAC recommends that the Governor request all of Missouri's 114 counties be assessed for drought damages. He also stated

that the DAC wants to send a consistent message to the citizens of Missouri that we are doing what we can to help.

Sarah Fast, reported that DNR's Soil and Water Program is already working with other agencies looking at drought recovery and offering additional money for reseeding. They will be meeting next week and will look at the drought conditions and impacts. A decision on assistance probably will be made at their September 8th meeting to be held at the DNR Conference Center, 1738 E. Elm St. Next spring will probably be a more feasible time for those recovery options.

Tim Kelley of FSA noted that under a disaster declaration assessment any county bordering a declared county will also have the same benefits under the declaration.

James Kleffner, Maries County Presiding Commissioner spoke of the intense damage in Maries County from too much rain in late winter, no freezing and then the frost every day in May. No rain for 2-3 weeks then stunted the grass. Most the hay was maybe 35-40 percent of what it should have. If we can get some rain through August some fescue will come back, but with no rain some stands will have to be redone. Next 30 days is pretty critical in determining what we will have next year. Already feeding hay and supplementing livestock. Conditions early in the year have a lot to do with feed production. We did not have a stock-pile of good cool season grasses.

Tom Wright, Miller County Presiding Commissioner, described the ponds in Miller County as going dry. His county has a lot of poultry producers. Due to the lack of feed they have already started to use winter-feed.

No additional impact teams were established.

The Department of Natural Resources will have a display at the State Fair about the drought.

Listed below are the phases of drought response and the counties included in that phase.

Phase 1 – Advisory Phase

A drought monitoring and assessment system is required to provide enough lead-time for state and local planners to take appropriate actions. The department and the Climate and Weather Committee will supply water monitoring analysis of anticipated drought consequences to the Drought Assessment Committee based on the assumption that the conditions will continue.

Barry, Bates, Bollinger, Butler, Caldwell, Cape Girardeau, Carter, Cass, Clinton, Daviess, Dekalb, Douglas, Dunklin, Gentry, Grundy, Harrison, Iron, Lafayette, Madison, McDonald, Mercer, Mississippi, New Madrid, Newton, Ozark, Pemiscot, Perry, Putnam, Ray, Reynolds, Ripley, Scott, St. Francois, Ste. Genevieve, Stoddard, Stone, Sullivan, Taney, Vernon, Wayne.

Phase 2 – Drought Alert

When the Palmer Drought Index reads -1.0 to -2.0, and stream flow, groundwater, and reservoir levels are below normal for a several month period and/or when the CWC determines Phase 2 activities are warranted the Governor will be requested by the Director of Natural Resources and other agencies such as Agriculture to make a drought alert declaration for those counties.

Adair, Barton, Carroll, Cedar, Chariton, Christian, Crawford, Dent, Franklin, Gasconade, Greene, Henry, Howell, Jasper, Jefferson, Johnson, Lawrence, Linn, Livingston, Macon, Oregon, Phelps, Pulaski, Saline, Schuyler, Scotland, Shannon, St. Charles, St. Clair, St. Louis County, Texas, Warren, Washington, Webster, Wright.

Phase 3 – Conservation Phase is activated.

When the Palmer Drought indices is between -2 and -4; or when the DAC determines that impacts require a Phase 3 response - when hydrologic conditions warrant and forecast indicate an extended period of below normal precipitation.

Audrain, Benton, Boone, Callaway, Camden, Clark, Cole, Cooper, Dade, Dallas, Hickory, Howard, Knox, Laclede, Lewis, Lincoln, Maries, Marion, Miller, Moniteau, Monroe, Montgomery, Morgan, Osage, Pettis, Pike, Polk, Ralls, Randolph, Shelby.

When to declare Phase 3: if the drawdown and static water level of a well continues to go down, a point should be chosen to declare an emergency situation based on prior knowledge of the well, if the demand on springs and streams is 65 to 75 percent of flow, when there are less than 120 but more than 60 days available supply in reservoirs and impoundments.

During the Conservation Phase: issue a water shortage statement, with coordination from the DAC, set more stringent conservation goals, ration Class 3 use. Restrict Class 2 use, inform the public, enact conservation pricing, and monitor/enforce compliance/restrictions.

What to do in Phase 3: implement stringent conservation measures, enact pricing measures and additional mandatory restrictions, indicate Class 2 and Class 3 use restrictions, expand educational efforts and explain pricing measures and restrictions, put water conservation ordinance in place, put alternate supply sources into service, and assess penalties for non-compliance with the water conservation ordinance.

Meeting adjourned.